**3GPP TSG-RAN WG2 Meeting #130 R2-250xxxx**

Malta, 19th – 23rd May 2025

**Agenda item: 8.4.2**

**Source: Huawei/HiSilicon**

**Title: Summary of [AT130][204][LPWUS] Proposals on whether/how to enable/disable LP-WUS, e.g. by RRC/NAS (Huawei)**

**WID: NR\_LPWUS-Core**

**Document for: Discussion and Decision**

# Introduction

This document aims to collect views from companies for the following offline discussion:

* [AT130][204][LPWUS] Proposals on whether/how to enable/disable LP-WUS, e.g. by RRC/NAS (Huawei)

 Intended outcome: Summary with proposals in R2-2504738.

 Deadline: before Thursday CB

Please provide your input before 10am on Thursday.

# Discussion

RAN2 had an initial discussion on enabling/disabling of LP-WUS based on the proposals from contribution R2-2503809 and R2-2503900. Below is the related excerpt from the chairman notes:

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| *[RRC-12, whether/how to enable/disable LP-WUS, e.g. by RRC/NAS]*R2-2503809 Remaining issues of LP-WUS in RRC\_IDLE/INACTIVE Apple discussion Rel-19 NR\_LPWUS-Core*Proposal 2: For UE in RRC\_IDLE state to enable/disable the LP-WUS feature, there is no need to introduce additional UE dedicated signaling for control, i.e. UE level control can be performed by means of the LP-WUS group ID allocated by CN.**Proposal 3: For UE in RRC\_INACTIVE state to enable/disable the LP-WUS feature, network can enable/disable the LP-WUS feature within RNA through RRCRelease message.*R2-2503900 Further discussion on the LP-WUS in RRC\_IDLE/INACTIVE mode Huawei, HiSilicon discussion Rel-19*Proposal 2: (RRC-12) The CN indicates whether LP-WUS capable UE(s) is/are allowed to use the LP-WUS functionality by NAS signaling: the absence of indication means UE is allowed to use LP-WUS functionality, and presence of indication to disable means UE is not allowed to use LP-WUS functionality.* *Proposal 2a: If above proposal is agreed, send LS to SA2/CT1/RAN3 to inform the agreement and to update the signalling between CN and RAN.*Discussion- CATT think there is other way, e.g., UE can decide whether LPWUS is enabled or disabled based on latency.- ZTE think for CN based way it is not up to R2. - Ericsson think it can base on CN assigned subgrouping. Ericsson think if we introduce disable/enable signalling in RRCRelease it introduce impact to other WGs.- Docomo think it is based on gNB implementation, and support RRC based indication. - Sony wonders what is the requirement to UE.  |

CATT commented during online that there is another way, i.e., UE can decide whether LPWUS is enabled or disabled based on latency. Their proposals are given below:

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| **Proposal 1: (RRC-12) Enabling/disabling LP-WUS monitoring in IDLE/INACTIVE per UE is supported.****Proposal 2: (RRC-12) RAN2 consider UE to determine whether to enable/disable LP-WUS monitoring in IDLE/INACTIVE based on latency requirement (i.e., i-DRX cycle of the UE).** |

We can first discuss whether to support enabling/disabling LP-WUS per UE, and then discuss how to support.

## Whether to support enabling/disabling LP-WUS in IDLE/INACTIVE per UE?

From CATT’s proposal: “**(RRC-12) Enabling/disabling LP-WUS monitoring in IDLE/INACTIVE per UE is supported.**”

#### Q1. Do companies agree to support enabling/disabling LP-WUS monitoring in IDLE/INACTIVE per UE?

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| --- | --- | --- |
| Company | Answer (Yes or No) | Comments |
| LGE | Yes | LP-WUS monitoring is not suitable for UEs with high paging probability or UEs with emergency PDU session. |
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**Summary:**.

**Rapporteur’s input:**

**Proposal 1:**

## Whether to have a unified solution for IDLE and INACTIVE?

Based on Apple’s proposals, rapporteur understands that enabling/disabling of LP-WUS feature is done different for IDLE and INACTIVE. Hence, would like to get companies input on whether a unified solution for both states is preferred or not.

#### Q2. Do companies prefer a unified solution to enable/disable LP-WUS per UE for IDLE and INACTIVE?

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| Company | Answer (Yes or No) | Comments |
| LGE | Yes |  |
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**Summary:**.

**Rapporteur’s input:**

**Proposal 2:**

## How to support enabling/disabling LP-WUS in IDLE/INACTIVE per UE?

Following are the different options.

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| --- | --- |
| Option 1 | *NW can enable/disable LP-WUS monitoring per UE via dedicated RRC message, e.g. RRCRelease message* |
| Option 2 | *The CN indicates whether LP-WUS capable UE(s) is/are allowed to use the LP-WUS functionality by NAS signaling: the absence of indication means UE is allowed to use LP-WUS functionality, and presence of indication to disable means UE is not allowed to use LP-WUS functionality.* |
| Option 3 | *RAN2 consider UE to determine whether to enable/disable LP-WUS monitoring in IDLE/INACTIVE based on latency requirement (i.e., i-DRX cycle of the UE).* |

#### Q3. Which option from the above do you support to enable/disable LP-WUS in IDLE/INACTIVE per UE?

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| --- | --- | --- |
| Company | Answer | Comments |
| LGE | Option 2 | CN has more information than RAN on UE characteristics, such as paging probability, and traffic. |
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**Summary:**.

**Rapporteur’s input:**

**Proposal 3:**

# Conclusions

Based on the inputs from companies, the following proposals are made:

# References

1. R2-2503809 Remaining issues of LP-WUS in RRC\_IDLE/INACTIVE, Apple
2. R2-2503900 Further discussion on the LP-WUS in RRC\_IDLE/INACTIVE mode, Huawei/HiSilicon
3. R2-2503659 Remaining issues on LP-WUS in IDLE and INACTIVE, CATT.